

seeed studio

INDUSTRIAL PRODUCT DATASHEET

Seeed Studio XIAO RP2350

A production-ready, thumb-sized MCU board with dual Arm Cortex-M33 and RISC-V cores, 2MB Flash, 19 GPIOs, and 27 μ A sleep mode, designed for wearables, smart control, and human interface devices.

SKU

102010550

UPDATED

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PRICE

\$4.90(Excl. VAT)



Overview



The Seeed Studio XIAO RP2350 is a tiny yet powerful MCU board built around the Raspberry Pi RP2350 dual-core, dual-architecture chip (Arm Cortex-M33 and RISC-V), offering enhanced security with secure boot and encrypted bootloader. It features 2MB Flash, 520kB SRAM, 19 multifunction GPIOs, an RGB LED, and an ultra-low 27 μ A sleep mode with direct battery voltage measurement, making it ideal for wearables, human interface devices, robotics, and education.

Key Features

- **Powerful MCU Board:** Equipped with a Raspberry Pi RP2350 chip featuring dual-core, dual-architecture capability, allowing developers to switch between the dual industry-standard Arm Cortex-M33 cores @ 150MHz with FPU, and a pair of open-hardware Hazard3 RISC-V cores
- **Enhanced Security Features:** Built-in secure boot and encrypted bootloader ensure application security.
- **Software Support:** Compatible with C/C++ and MicroPython, ensuring easy project development and prototyping.
- **Rich Onboard Resources:** Integrates an RGB LED, 2MB Flash, 520kB SRAM, and 19 multifunction GPIOs(Analog, Digital, I²C, UART, SPI, PWM).
- **Expanded 8 New IOs:** Compared to previous XIAO MCUs, the addition of 8 IO pins on the back supports more complex applications.
- **Efficient Power Design:** Ultra-low power consumption of just 27μA in sleep mode, enabling battery power supply. Direct battery voltage measurement via internal IO enhances the battery management system (BMS).
- **Compact Thumb-Sized Design:** Measuring 21 x 17.8mm, adopting Seeed Studio's classic XIAO form factor, ideal for space-conscious applications.
- **Production-friendly:** Surface Mount Device (SMD) design with all components on the front and stamp holes on both sides, facilitating efficient mass production.

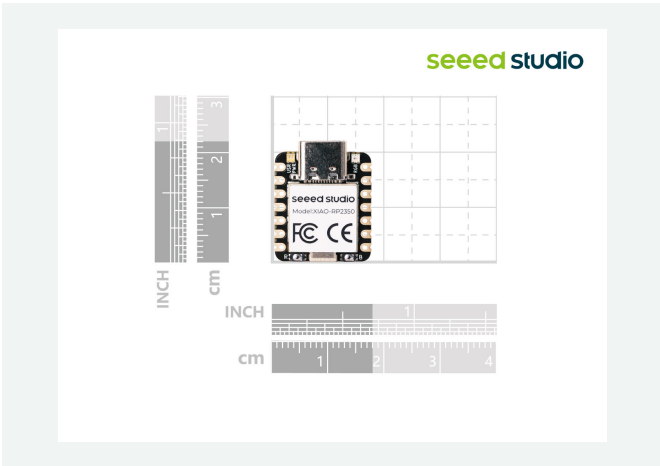
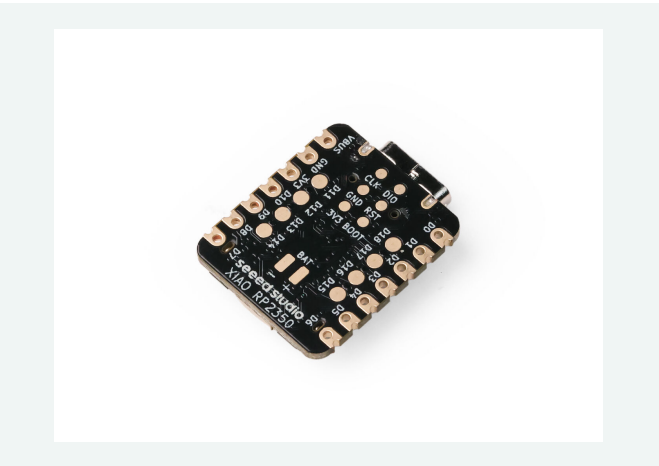
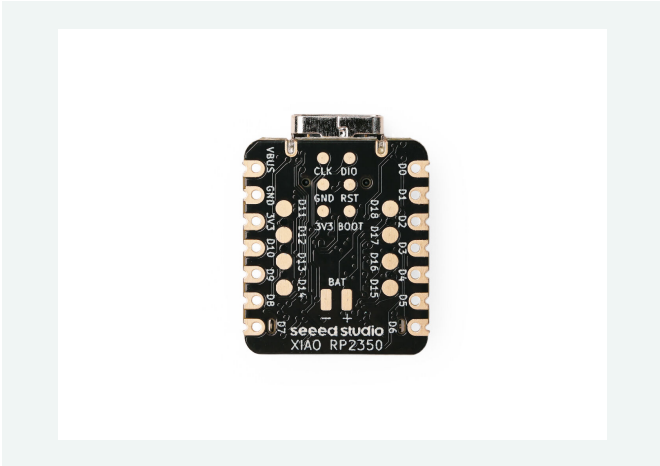
Production-Ready Design with Fusion PCBA Support

Being the 9th member of the [Seeed Studio XIAO family](#), the XIAO RP2350 remains the classic XIAO design (thumb-size, SMD, stamp holes). All these features make it a perfect fit for either space-limited projects such as wearables, or a production-ready unit for commercial PCBA (Printed Circuit Board Assembly) integration. Through our [Fusion PCBA Sponsorship program](#), you can not only enjoy the lowest unit prices for all XIAO modules from our Fusion Open Parts Library, but also fabricate and scale your XIAO-based PCBA designs at low cost (30% off) with FREE Design for Manufacturing consulting services, streamlining your journey from prototype to production.

Note

XIAO SoM User Manual open-sources all hardware and software materials of XIAO, providing professional product design guidelines to help you accelerate ideas off the ground, streamline product design, providing a seamless experience from module selection to mass production. You can check [here](#) to see more info.

Product Gallery



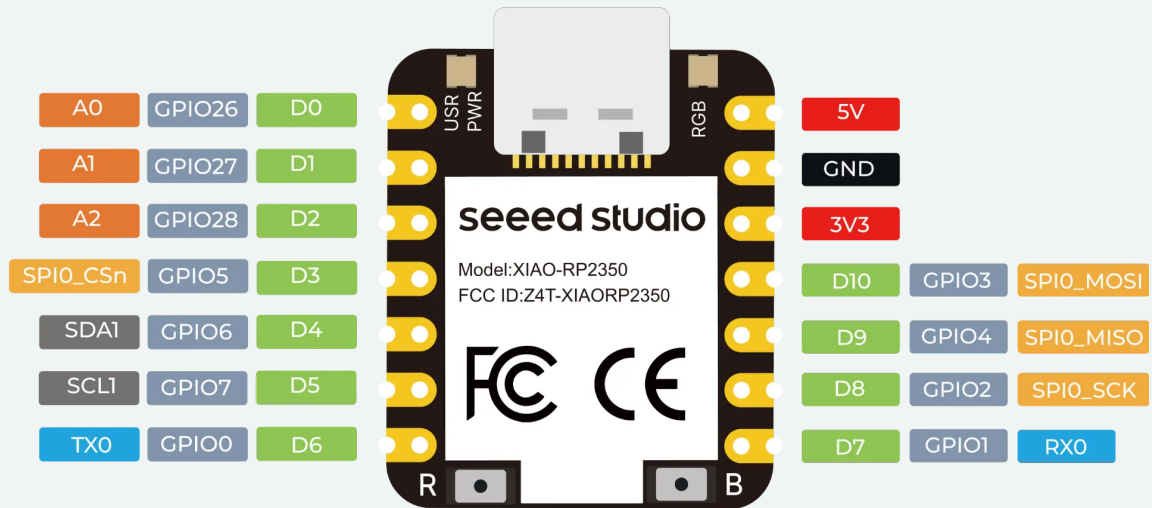
Specification

Product	XIAO RP2040	XIAO RP2350
Processor	Raspberry Pi RP2040	Raspberry Pi RP2350
	Dual Cortex-M0+ @ 133MHz	Dual Cortex-M33 @ 150MHz, FPU

RAM	264kB SRAM	520kB SRAM
Flash	2MB Onboard	2MB Flash
LEDs	1x user LED 1x power LED 1x RGB LED	1x user LED 1x power LED 1x RGB LED
Interface	11 Pins (All PWM) : 4x Analog 11x Digital 1x I ² C 1x UART 1x SPI	19 Pins (All PWM) : 3x Analog 19x Digital 2x I ² C 2x UART 2x SPI
Button	1x RESET button 1x BOOT button	1x RESET button 1x BOOT button
Security	-	OTP, Secure Boot, Arm TrustZone
Software compatibility	Support Micropython / Arduino / CircuitPython	Support Micropython / Arduino / C,C++
Working Temperature	-20°C-70°C	-20°C-70°C
Dimensions	21x17.8 mm	21x17.8 mm

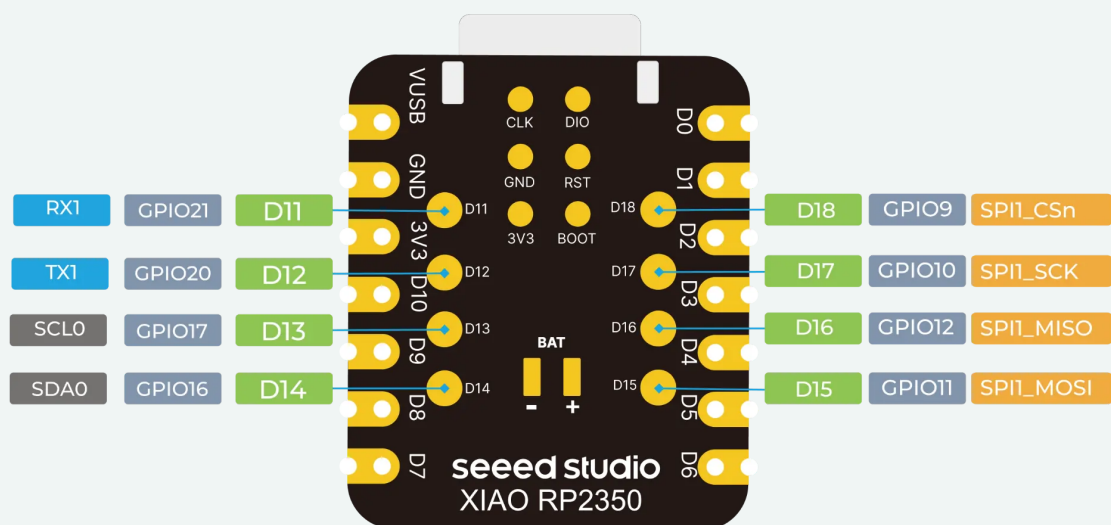
Hardware Overview

Front

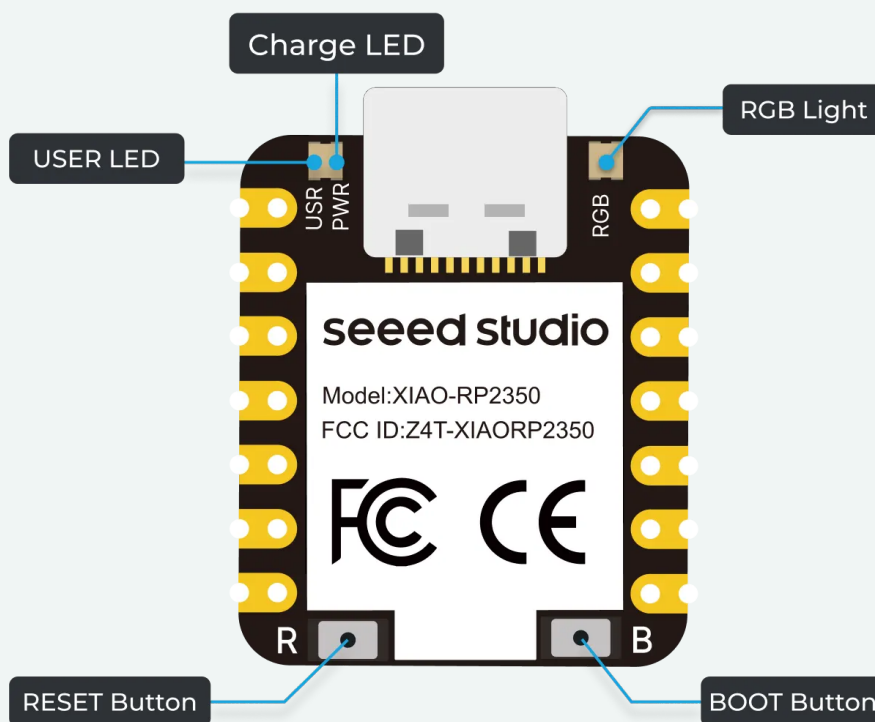


Digital Analog GPIO IIC UART SPI Power GND ALL PWM

Back



Digital Analog GPIO IIC UART SPI Power GND ALL PWM



Applications

- **Smart Control**
- **Human Interface Devices:** (HID, such as mouse, DIY Mechanical Keyboard, joystick, console)
- **Education**
- **Robotics**
- **Wearables**

Part List

Seeed Studio XIAO RP2350	x1
7 Pin Header	x2

Compliance & Logistics



HSCODE	8543709990
USHSCODE	8517180050
UPC	
EUHSCODE	8543709099
COO	CHINA

FCC Requirement

Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

15.21

This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter.

Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules.

These limits are designed to provide reasonable protection against harmful interference in a residential installation.

This equipment generates, uses, and can radiate radio frequency energy.

If not installed and used in accordance with the instructions, it may cause harmful interference to radio communications.

However, there is no guarantee that interference will not occur in a particular installation.

If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Resource Links

- <https://www.seeedstudio.com/Seeed-XIAO-RP2350-p-5944.html>
- [PCN-XIAO Series Packaging Upgrade.pdf](#)
- [Wiki-XIAO RP2350 Resources](#)
- [Seeed Studio XIAO Use Case](#)

Seeed Technology Co.,Ltd.
9F, Building G3, International E City,
Zhongshanyuan Road, Nanshan, Shenzhen, China

Tel: +86 0755-80695676
Web: www.seeed.cc
Shop: www.seeedstudio.com